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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,296	02/06/2004	Ramesh B. Poola	GP-304476	5419

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EXAMINER

MCMAHON, MARGUERITE J

ART UNIT PAPER NUMBER

3747

DATE MAILED: 12/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/774,296	<b>Applicant(s)</b> POOLA ET AL.	
	<b>Examiner</b> Marguerite J. McMahon	<b>Art Unit</b> 3747	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/6/04</u> . | 6) <input type="checkbox"/> Other: ____.  |

***Claim Rejections - 35 USC § 103***

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al (6,513,476) in view of Zhu et al (6,182,630). Liu et al show everything except they do not disclose the diameter of the piston. Zhu et al teach that it is old in the art to utilize a piston having a diameter of at least 180 millimeters (see column 4, lines 1-10). It would have been obvious to one of ordinary skill in the art to modify the piston of Liu et al by specifying that the diameter should be at least 180 millimeters, in order to accommodate a large engine application.

Claims 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al (6,513,476) in view of .

Claims 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al (6,513,476) in view of Zhu et al (6,182,630) as applied to claims 1-4 above, and further in view of Paro (5,553,585). Liu et al in view of Zhu et al show everything except utilizing an anti-polish ring positioned at an upper portion of the liner wall, which projects into the cylinder while the piston is recessed substantially the same distance that the ring projects, the liner wall having an annular slot which receives the anti-polish ring. Paro teaches that it is old in the art to employ an anti-polish ring positioned at an upper portion of the liner wall, which projects into the cylinder while the piston is recessed substantially the same distance that the ring projects, the liner wall having an annular slot which receives the anti-polish ring. It would have been obvious to one of ordinary skill in the art to modify Liu et al in view of Zhu et al by employing the anti-polish ring of Paro, in order to remove carbon deposits from the piston. Furthermore, it would have

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been obvious to one of ordinary skill to form the ring integrally with the liner, as this is an art recognized equivalent to forming the ring separately and later joining it with the liner, known for the same purpose, as evidenced by applicant claiming both alternatives.

Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paro (5,553,585). Paro shows everything except the anti-polish ring being integrally formed with the liner. It would have been obvious to one of ordinary skill to form the ring integrally with the liner, as this is an art recognized equivalent to forming the ring separately and later joining it with the liner, known for the same purpose, as evidenced by applicant claiming both alternatives.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marguerite J. McMahon whose telephone number is 703-308-1956. The examiner can normally be reached on flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yuen Henry can be reached on 703-308-1946. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**MARGUERITE MCMAHON**  
**PRIMARY EXAMINER**